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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,167	04/06/2000	Hiroyuki Urushiya	35.G2566	9371

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EXAMINER

TRAN, NHAN T

ART UNIT PAPER NUMBER

2615

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/544,167

Applicant(s)

URUSHIYA, HIROYUKI

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7 and 30-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7 and 30-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/24/2003 respect to claims 1 and 7 have been considered but are moot in view of the new ground(s) of rejection.

In addition to the rejection set below, the Examiner would like to provide clarifications in response to the Applicant's arguments stated in the second paragraph of page 10 in which the Examiner respectfully disagrees. The Applicant asserts that Fossum does not teach or suggest block forming means for judging whether a plurality of the defective pixels are adjacent on the basis of the positional information of the adjacent defective pixels and for extracting regional information of adjacent defective pixels. As disclosed by Fossum, pre-defined groups of dead (defective) pixels are formed (col. 1, lines 63-67). Each of the pre-defined group is set as criteria to identify whether defective pixels are within the pre-defined group having contiguous defective pixels (adjacent defective pixels) or the defective pixels are separately located as a single defect based on the defective pixels and their corresponding addresses found (extracted) in step 100 (col. 3, line 1-23). By virtue of Fossum's invention, regional information of the defective pixels is extracted in order to determine whether an entire ROW X, entire COLUMN Y, an area of 3x3 or 5x5 of pixels is defective, and then the regional information is rewritten in form of (R, C, T) to store in the register 204 (or 300 in detail) wherein R is row number, C is the column number and T is the indication of the area type. In view of the above, the Examiner believes that the

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interpretation of the present claims does read on the cited references at least for the reasons discussed above and as stated in the following Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 31 & 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Fossum et al (US 6,611,288).

Regarding claim 1, Fossum discloses an image processing apparatus (col. 1, lines 5-7 and col. 2, lines 15-20) comprising:

extraction means (control 200) for extracting (reading out) a pixel signal of an image pickup means that has a plurality of pixels, and for determining positional information (address) of defective pixels based on the pixel signal information (see col. 2, lines 21-65);

block forming means (combination of control 200 and register 204) for judging whether a plurality of the defective pixels are adjacent to each other (contiguous dead pixels) on the basis of the positional information of the defective pixels and for extracting regional information (indicia in form of row number R, column number C and area type T) of the adjacent defective

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pixels (col. 3, lines 1-23), and storage means (300) for storing the extracted regional information of the adjacent defective pixels (col. 3, lines 42-46).

Regarding claim 31, Fossum also discloses that the block forming means expresses the position and the width of the defective pixels adjacent in one direction using run-length coding in form of (R,C,T), wherein R is row number, C is column number and T is a three bit coding area type as described in col. 3, lines 12-23.

Regarding claim 33, Fossum discloses that all pixels do not fall within the specified performance windows are identified and their addresses are stored in the registers 300 (see col. 2, lines 63-65).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 30, 32, 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum et al (US 6,611,288) in view of Tabei et al (US 5,805,216).

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Regarding claim 7, Fossum discloses an image processing apparatus that comprises storage means (300) for storing regional information of adjacent defective pixels (see col. 3, lines 42-46 and refer to the above analysis in claim 1);

correction means (112) for correcting the defective pixels by using peripheral pixels of the defective pixels (see col. 3, line 66 – col. 4, line 7 for substituting dead pixels with previous good pixels which are inherently peripheral pixels of the dead pixels).

Fossum does not teach that the correction means changes a correction method of the defective pixels by using the regional information. However, Fossum suggests that the defective pixels can be corrected by a more complicated method than the disclosed substitution method (col. 4, lines 20-23). Furthermore, the phrase “by using the regional information” is interpreted as by using the regional information of defective pixels to determine an appropriate correction method for the defective pixels.

Tabei teaches a more complicated method for correcting defective pixels of an image sensor. According to Tabei, the correction means changes correction operation based on the boundary that is present in an object to be imaged in the vicinity of the defective pixel (stored in a memory 15). In response to the calculation result of surrounding pixels of a defective pixel, one of 12 correction methods is selected to replace the defective pixel with a previous good pixel (Fig. 12A) or different combination of surrounding good pixels, thereby the defective pixel is corrected finely and exactly (see Figs. 12A-L; Abstract and col. 4, lines 33-55; col. 7, line 54 – col. 8, line 8).

Therefore, someone skilled in the art would have been motivated to combine Fossum with Tabei to provide a better image processing apparatus having capability to detect and correct

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defective pixels, in which the correction operation would change a correction method of the defective pixels by using the regional information surrounding defective pixels so that even when a complicated boundary is present in the vicinity of the defective pixels, the boundary is identified to correct the defective pixels finely and exactly.

Regarding claim 30, see the analysis in claims 1 & 7.

Regarding claim 32, the combination of Fossum and Tabei as analyzed in claims 1 & 7 teaches that the correction means takes a pixel region necessary to correct the adjacent defective pixels from an output of the image pickup means and corrects those defective pixels in that pixel region by using the regional information (also refer to the combination of Fossum in col. 3, line 55 – col. 4, line 27 and Tabei in Figs. 12A-L).

Regarding claim 34, see the analysis in claim 32.

Regarding claim 35, see the analysis in claims 1 & 7.

Regarding claim 36, see the analysis in claims 1 & 7, wherein the regional information of the adjacent defective pixels is read out and the defective pixels are corrected by using peripheral pixels of the defective pixels (see Fossum; col. 3, line 55 – col. 4, line 23).

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Regarding claim 37, see the analysis in claims 1 & 7. Fossum also suggests that the operation of the imaging system is implemented by either hardware configuration or software configuration (col. 4, lines 24-27) and the operation is executed according to prestored routine or user-alterable routine (col. 3, lines 45-46) that indicates an inherent storage medium for storing a program to run the operation.

4. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fossum et al and Tabei as applied to claim 7 and in further view of Parulski et al (US 6,573,927).

Regarding claim 38, see the same analysis as applied to claims 1 & 7. In addition, Fossum fails to explicitly disclose a monitor for monitoring the image signal processed by the image processing apparatus, a network for transmitting the image signal processed by the image processing apparatus and an image database connected to the network for storing the image signal. Parulski teaches an imaging apparatus (12) for processing an image captured by an image sensor, viewing the processed image through a color LCD (24) and also transmitting the processed image to a service provider (14) via a communication network (28, 31) to store the processed image in an image database (52) for further ordering a print of the image or sharing the image with a group of users who are authorized to access the database (see Figs. 1A & B; col. 4, lines 9-16, 43-58).

Therefore, it would have been obvious to one of ordinary skill in the art to further combine Fossum and Tabei with Parulski to provide a complete image capturing, processing and servicing over a network so that the user would obtain a quality print of the image at a service

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provider while electronically sharing the image to a group of users such as the user's friends or relatives for online viewing.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

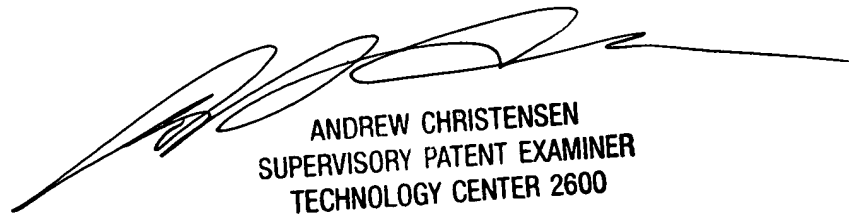
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.



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